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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

1. (previously presented) An oscillator, comprising:

a first resonator having a first tuning input to tune the first resonator as a function of a first current applied to the first tuning input; and

a second resonator coupled to the first resonator, the second resonator having a second tuning input to tune the second resonator as a function of a second current applied to the second tuning input,

wherein the first resonator comprises a first output and the second resonator comprises a second output, and

wherein the output of the first resonator is fed back to the second tuning input for the second resonator, and the output of the second resonator is fed back to the first tuning input for the first resonator.

2. (cancelled)

3. (previously presented) The oscillator of claim 1 wherein the first and second outputs comprises a quadrature output.

4. (cancelled)

5. (previously presented) The oscillator of claim 1 further comprising a first transconductance cell positioned between the output of the first resonator and the second tuning input, and a second transconductance cell positioned between the output of the second resonator and the first tuning input.

6. (original) The oscillator of claim 5 wherein the first transconductance cell has a digitally programmable variable gain.

7. (original) The oscillator of claim 6 wherein the second transconductance cell has a digitally programmable variable gain.

8. (original) The oscillator of claim 5 wherein the output of the first resonator is fed back to the first tuning input, and the output of the second resonator is fed back to the second tuning input.

9. (original) The oscillator of claim 8 further comprising a third transconductance cell positioned between the output of the first resonator and the first tuning input, and a fourth transconductance cell positioned between the output of the second resonator and the second tuning input.

10. (original) The oscillator of claim 9 wherein one of the first, second, third and fourth transconductance cells has a gain control input responsive to a digital word to program a gain thereof.

11. (original) The oscillator of claim 9 wherein the first transconductance cell comprises a first gain control input responsive to a first digital word to program a gain thereof, the second transconductance cell comprises a second gain control input responsive to a second digital word to program a gain thereof, the third transconductance cell comprises a third gain control input responsive to a third digital word to program a gain thereof, and the fourth transconductance cell comprises a fourth gain control input responsive to a fourth digital word to program a gain thereof.

12. (original) The oscillator of claim 11 wherein the first transconductance cell comprises a first current source having the first gain control input, the second transconductance cell comprises a second current source having the second gain control input, the third transconductance cell comprises a third current source having the third gain control input, and the fourth transconductance cell comprises a fourth current source having the fourth gain control input.

13. (original) The oscillator of claim 11 wherein the coupled first and second resonators have a tuning range over a tuning frequency, the tuning frequency being divided into a plurality of frequency bands, one of the frequency bands being selected in response to the third and fourth digital words respectively applied to the third and fourth gain control inputs.

14. (original) The oscillator of claim 13 wherein the coupled first and second resonators have an operating frequency, the operating frequency being tunable over the selected frequency band in response to the first and second digital words respectively applied to the first and second gain control inputs.

15. (previously presented) An oscillator, comprising:

a first resonator having a first tuning input;

a second resonator coupled to the first resonator, the second resonator having a second tuning input;

first control means for controlling a first current applied to the first resonator to tune the first resonator; and

second control means for controlling a second current applied to the second resonator to tune the second resonator,

wherein the first resonator comprises a first output and the second resonator comprises a second output, and

wherein the first control means feeds back the output of the second resonator to the first tuning input, and the second control means feeds back the output of the first resonator to the second tuning input.

16. (cancelled)

17. (previously presented) The oscillator of claim 15 wherein the first and second outputs comprises a quadrature output.

18. (cancelled)

19. (previously presented) The oscillator of claim 15 wherein the first control means comprises a first transconductance cell to feed back the output of the second resonator to the first tuning input, and the second control means comprises a second transconductance to feed back the output of the first resonator to the second tuning input.

20. (original) The oscillator of claim 19 wherein the first transconductance cell comprises first programming means for digitally programming gain.

21. (original) The oscillator of claim 20 wherein the second transconductance cell comprises second programming means for digitally programming gain.

22. (original) The oscillator of claim 19 wherein the first control means further feeds back the output of the first resonator to the first tuning input, and the second control means feeds back the output of the second resonator to the second tuning input.

23. (original) The oscillator of claim 22 wherein the first control means further comprises a third transconductance cell to feed back the output of the first resonator to the first tuning input, and the second control means comprises a fourth transconductance cell to feed back the output of the second resonator to the second tuning input.

24. (original) The oscillator of claim 23 wherein one of the first, second, third and fourth transconductance cells means for programming a gain thereof in response to a digital word.

25. (original) The oscillator of claim 23 wherein the first transconductance cell comprises a first programming means for programming a gain thereof in response to a first digital word, the second transconductance cell comprises a second programming means for programming the gain thereof in response to a second digital word, the third transconductance cell comprises a third programming means for programming a gain thereof in response to a third digital word, and the fourth transconductance cell comprises a fourth programming means for programming the gain thereof in response to a fourth digital word.

26. (original) The oscillator of claim 25 wherein the first programming means comprises a first current source, the second programming means comprises a second current source, the third programming means comprises a third current source, and the fourth programming means comprises a fourth current.

27. (original) The oscillator of claim 25 wherein the coupled first and second resonators have a tuning range over a tuning frequency, the tuning frequency being divided into a plurality of frequency bands, one of the frequency bands being selected in response to the third and fourth digital words respectively applied to the third and fourth programming means.

28. (original) The oscillator of claim 27 wherein the coupled first and second resonators have an operating frequency, the operating frequency being tunable over the selected frequency band in response to the first and second digital words respectively applied to the first and second programming means.

29. (original) An oscillator, comprising:

a first resonator having a first tuning input and a first output;

a second resonator having a second tuning input and a second output;

a first transconductance cell coupled between the first output and the second tuning input;

a second transconductance cell coupled between the second output and the first tuning input;

a third transconductance cell coupled between the first output and the first tuning input; and

a fourth transconductance cell coupled between the second output and the second tuning input.

30. (original) The oscillator of claim 29 wherein the first and second outputs comprises a quadrature output.

31. (original) The oscillator of claim 29 wherein the first transconductance cell comprises a first gain control input responsive to a first digital word to program a gain thereof,

the second transconductance cell comprises a second gain control input responsive to a second digital word to program a gain thereof, the third transconductance cell comprises a third gain control input responsive to a third digital word to program a gain thereof, and the fourth transconductance cell comprises a fourth gain control input responsive to a fourth digital word to program a gain thereof.

32. (original) The oscillator of claim 31 wherein the first transconductance cell comprises a first current source having the first gain control input, the second transconductance cell comprises a second current source having the second gain control input, the third transconductance cell comprises a third current source having the third gain control input, and the fourth transconductance cell comprises a fourth current source having the fourth gain control input.

33. (original) The oscillator of claim 31 wherein the first and second resonators each have a tuning range over a tuning frequency, the tuning frequency being divided into a plurality of frequency bands, one of the frequency bands being selected in response to the third and fourth digital words respectively applied to the third and fourth gain control inputs.

34. (original) The oscillator of claim 13 wherein the first and second resonators each have an operating frequency, the operating frequency being tunable over the selected frequency band in response to the first and second digital words respectively applied to the first and second gain control inputs.

35. (previously presented) A transceiver, comprising:

a current controlled oscillator including a first resonator having a first tuning input to tune the first resonator as a function of a first current applied to the first tuning input, and a second resonator coupled to the first resonator, the second resonator having a second tuning input to tune the second resonator as a function of a second current applied to the second tuning input; and

a controller having a first control to control the first current to the first tuning input, and a second control to control the second current to the second tuning input,

wherein the first resonator comprises a first resonator output and the second resonator comprises a second resonator output, and

wherein the first resonator output is fed back to the second tuning input for the second resonator, and the second resonator output is fed back to the first tuning input for the first resonator.

36. (cancelled)

37. (previously presented) The transceiver of claim 35 wherein the first and second resonator outputs comprises a quadrature output.

38. (cancelled)

39. (previously presented) The transceiver of claim 35 wherein the current controlled oscillator comprises a first transconductance cell positioned between the first resonator output and the second tuning input, and a second transconductance cell positioned between the second resonator output and the first tuning input.

40. (original) The transceiver of claim 39 wherein the first transconductance cell has a digitally programmable variable gain.

41. (original) The transceiver of claim 40 wherein the second transconductance cell has a digitally programmable variable gain.

42. (original) The transceiver of claim 39 wherein the first resonator output is fed back to the first tuning input, and the second resonator output is fed back to the second tuning input.

43. (original) The transceiver of claim 42 wherein the current controlled oscillator comprises a third transconductance cell positioned between the first resonator output and the first tuning input, and a fourth transconductance cell positioned between the second resonator output and the second tuning input.

44. (original) The transceiver of claim 43 wherein the first control output comprises a first, second digital word and the second control output comprises a third and fourth digital word, the first transconductance cell comprises a first gain control input responsive to the third digital word to program a gain thereof, the second transconductance cell comprises a second gain control input responsive to the first digital word to program a gain thereof, the third transconductance cell comprises a third gain control input responsive to the second digital word to program a gain thereof, and the fourth transconductance cell comprises a fourth gain control input responsive to the fourth digital word to program a gain thereof.

45. (original) The transceiver of claim 44 wherein the first transconductance cell comprises a first current source having the first gain control input, the second transconductance cell comprises a second current source having the second gain control input, the third transconductance cell comprises a third current source having the third gain control input, and the fourth transconductance cell comprises a fourth current source having the fourth gain control input.

46. (original) The transceiver of claim 44 wherein the coupled first and second resonators have a tuning range over a tuning frequency, the tuning frequency being divided into a plurality of frequency bands, one of the frequency bands being selected in response to the third and fourth digital words respectively applied to the second and fourth gain control inputs.

47. (original) The transceiver of claim 46 wherein the coupled first and second resonators have an operating frequency, the operating frequency being tunable over the selected frequency band in response to the first and third digital words respectively applied to the first and second gain control inputs.

48. (original) A method of tuning an oscillator, comprising:
converting an output of a first resonator to a first current;
converting an output of a second resonator to a second current;
tuning a first resonator as a function of the second current; and
tuning the second resonator as a function of the first current.

49. (original) The method of claim 48 further comprising converting the output of the first resonator to a third current, and converting the output of the second resonator to a fourth current, the tuning of the first resonator being a function of the first and third currents, and the tuning of the second resonator being a function of the second and fourth currents.

50. (original) The method of claim 49 further comprising digitally programming the conversion of the output of the first resonator to set the first current.

51. (original) The method of claim 49 further comprising digitally programming the conversion of the output of the second resonator to set second current.

52. (original) The method of claim 49 further comprising digitally programming the conversion of the output of the third resonator to set the third current.

53. (original) The method of claim 49 further comprising digitally programming the conversion of the output of the fourth resonator to set the fourth current.

54. (original) The method of claim 49 further comprising digitally programming the conversion of the output of the first resonator to set the first current, digitally programming the conversion of the output of the second resonator to set the second current, digitally programming the conversion of the output of the third resonator to set the third current, and digitally programming the conversion of the output of the fourth resonator to set the fourth current.

55. (original) The method of claim 54 wherein the first and second resonators have a tuning range over a tuning frequency, the tuning frequency being divided into a plurality of frequency bands, and the setting of the third and fourth currents comprises selecting one of the frequency bands.

56. (original) The method of claim 55 wherein the first and second resonators have an operating frequency, and the setting of the first and second currents comprises tuning the first and second resonators over the selected frequency bands.

57. (previously presented) A method of tuning an oscillator having a tuning range over a tuning frequency, the tuning frequency being divided into a plurality of frequency bands, the method comprising:

generating a first digital word;

selecting one of the frequency bands with the first digital word;

generating a second digital word; and

tuning the oscillator to an operating frequency within the selected frequency band with the second digital word.

58. (original) The method of claim 57 wherein the oscillator comprises first resonator having a first tuning input and a first resonator output, and a second resonator having a second tuning input a second resonator output, and wherein the selection of one of the frequency bands comprises feeding back the first resonator output to the first tuning input as a function of the first digital word, and feeding back the second resonator output to the second tuning input as a function of the first digital word.

59. (original) The method of claim 58 wherein the generation of the first digital word comprises generating a first digital word associated with the feedback of the first resonator output to the first tuning input that is different from the first digital word associated with the feedback of the second resonator output to the second tuning input.

60. (original) The method of claim 58 wherein the generation of the first digital word comprises generating a first digital word associated with the feedback of the first resonator output to the first tuning input that is the same as the first digital word associated with the feedback of the second resonator output to the second tuning input.

61. (original) The method of claim 57 wherein the oscillator comprises first resonator having a first tuning input and a first resonator output, and a second resonator having a second tuning input a second resonator output, and wherein the tuning of the oscillator comprises feeding back the first resonator output to the second tuning input as a function of the second

digital word, and feeding back the second resonator output to the first tuning input as a function of the second digital word.

62. (original) The method of claim 61 wherein the generation of the second digital word comprises generating a second digital word associated with the feedback of the first resonator output to the second tuning input that is different from the second digital word associated with the feedback of the second resonator output to the first tuning input.

63. (original) The method of claim 61 wherein the generation of the second digital word comprises generating a second digital word associated with the feed back of the first resonator output to the second tuning input that is the same as the second digital word associated with the feedback of the second resonator output to the first tuning input.

64. (original) The method of claim 57 wherein the oscillator comprises first resonator having a first tuning input and a first resonator output, and a second resonator having a second tuning input a second resonator output, and wherein the selection of one of the frequency bands comprises feeding back the first resonator output to the first tuning input as a function of the first digital word, and feeding back the second resonator output to the second tuning input as a function of the first digital word, and wherein the tuning of the oscillator comprises feeding back the first resonator output to the second tuning input as a function of the second digital word, and feeding back the second resonator output to the first tuning input as a function of the second digital word.

65. (original) The method of claim 64 wherein the generation of the first digital word comprises generating a first digital word associated with the feedback of the first resonator output to the first tuning input that is different from the first digital word associated with the feedback of the second resonator output to the second tuning input, and the generation of the second digital word comprises generating a second digital word associated with the feedback of the first resonator output to the second tuning input that is different from the second digital word associated with the feedback of the second resonator output to the first tuning input.

66. (original) The method of claim 64 wherein the generation of the first digital word comprises generating a first digital word associated with the feedback of the first resonator output to the first tuning input that is the same as the first digital word associated with the feedback of the second resonator output to the second tuning input, and the generation of the second digital word comprises generating a second digital word associated with the feed back of the first resonator output to the second tuning input that is the same as the second digital word associated with the feedback of the second resonator output to the first tuning input.

67. (original) The method of claim 57 wherein the oscillator comprises first resonator having a first tuning input and a first resonator output, and a second resonator having a second tuning input a second resonator output, and wherein the selection of one of the frequency bands comprises converting the first resonator output to a first current as a function of the first digital word, feeding back the first current to the first tuning input, converting the second resonator output to a second current as a function of the first digital word, and feeding back the second current to the second tuning input.

68. (original) The method of claim 67 wherein the generation of the first digital word comprises generating a first digital word associated with the conversion of the first resonator output to the first current that is different from the first digital word associated with the conversion of the second resonator output to the second current.

69. (original) The method of claim 67 wherein the generation of the first digital word comprises generating a first digital word associated with the conversion of the first resonator output to the first current that is the same as the first digital word associated with the conversion of the second resonator output to the second current.

70. (original) The method of claim 57 wherein the oscillator comprises first resonator having a first tuning input and a first resonator output, and a second resonator having a second tuning input a second resonator output, and wherein the tuning of the oscillator comprises converting the first resonator output to a first current as a function of the second digital word, feeding back the first current to the second tuning input, converting the second resonator output

to a second current as a function of the second digital word, and feeding back the second current to the first tuning input.

71. (original) The method of claim 70 wherein the generation of the second digital word comprises generating a second digital word associated with the conversion of the first resonator output to the first current that is different from the second digital word associated with the conversion of the second resonator output to the second current.

72. (original) The method of claim 70 wherein the generation of the second digital word comprises generating a second digital word associated with the conversion of the first resonator output to the first second tuning input that is the same as the second digital word associated with the feedback of the second resonator output to the first tuning input.

73. (original) The method of claim 57 wherein the oscillator comprises first resonator having a first tuning input and a first resonator output, and a second resonator having a second tuning input a second resonator output, and wherein the selection of one of the frequency bands comprises converting the first resonator output to a first current as a function of the first digital word, feeding back the first current to the first tuning input, converting the second resonator output to a second current as a function of the first digital word, and feeding back the second current to the second tuning input, and wherein the tuning of the oscillator comprises converting the first resonator output to a third current as a function of the second digital word, feeding back the third current to the second tuning input, converting the second resonator output to a fourth current as a function of the second word, and feeding back the fourth current to the first tuning input.

74. (original) The method of claim 73 wherein the generation of the first digital word comprises generating a first digital word associated with the conversion of the first resonator output to the first tuning input that is different from the first digital word associated with the conversion of the second resonator output to the second tuning input, and the generation of the second digital word comprises generating a second digital word associated with the conversion

of the first resonator output to the third current that is different from the second digital word associated with the conversion of the second resonator output to the fourth current.

75. (original) The method of claim 73 wherein the generation of the first digital word comprises generating a first digital word associated with the conversion of the first resonator output to the first current that is the same as the first digital word associated with the conversion of the second resonator output to the second current, and the generation of the second digital word comprises generating a second digital word associated with the conversion of the first resonator output to the third current that is the same as the second digital word associated with the conversion of the second resonator output to the fourth tuning input.

76. (original) An oscillator having a tuning range over a tuning frequency, the tuning frequency being divided into a plurality of frequency bands, the oscillator comprising:

selection means for selecting one of the frequency bands as a function of a first digital word; and

tuning means for tuning the oscillator to an operating frequency within the selected frequency bands as a function of a second digital word.

77. (original) The oscillator of claim 76 further comprising a first resonator having a first tuning input, a second resonator coupled to the first resonator, the second resonator having a second tuning input, the selection means and the tuning means being coupled to the first tuning input to tune the first resonator, and the selection means and tuning means being coupled to the second tuning input to tune the second resonator.

78. (original) The oscillator of claim 77 wherein the first resonator comprises a first output and the second resonator comprises a second output.

79. (original) The oscillator of claim 78 wherein the first and second outputs comprises a quadrature output.

80. (original) The oscillator of claim 78 wherein the tuning means feeds back the output of the second resonator to the first tuning input, and feeds back the output of the first resonator to the second tuning input.

81. (original) The oscillator of claim 80 wherein the tuning means comprises a first transconductance cell to feed back the output of the second resonator to the first tuning input, and a second transconductance to feed back the output of the first resonator to the second tuning input.

82. (original) The oscillator of claim 81 wherein the first transconductance cell comprises first programming means for digitally programming gain in response to the second digital word.

83. (original) The oscillator of claim 82 wherein the second transconductance cell comprises second programming means for digitally programming gain in response to the second digital word.

84. (original) The oscillator of claim 83 wherein the first and second programming means each comprises a current source.

85. (original) The oscillator of claim 83 wherein the second digital word associated with the first programming means is different from the second digital word associated with the second programming means.

86. (original) The oscillator of claim 83 wherein the second digital word associated with the first programming means is the same as the second digital word associated with the second programming means.

87. (original) The oscillator of claim 78 wherein the selection means feeds back the output of the first resonator to the first tuning input, and feeds back the output of the second resonator to the second tuning input.

88. (original) The oscillator of claim 87 wherein the selection means a first transconductance cell to feed back the output of the first resonator to the first tuning input, and a second transconductance cell to feed back the output of the second resonator to the second tuning input.

89. (original) The oscillator of claim 87 wherein the first transconductance cell comprises first programming means for digitally programming gain in response to the first digital word.

90. (original) The oscillator of claim 88 wherein the second transconductance cell comprises second programming means for digitally programming gain in response to the first digital word.

91. (original) The oscillator of claim 90 wherein the first and second programming means each comprises a current source.

92. (original) The oscillator of claim 90 wherein the first digital word associated with the first programming means is different from the first digital word associated with the second programming means.

93. (original) The oscillator of claim 90 wherein the first digital word associated with the first programming means is the same as the first digital word associated with the second programming means.

94. (New) The oscillator of claim 1 wherein the oscillator is part of a wireless communications device that performs orthogonal frequency division multiplexing.

95. (New) The oscillator of claim 1 wherein the oscillator is part of a wireless communications device that performs spread spectrum modulation.

96. (New) The oscillator of claim 1 wherein the oscillator is part of a wireless communications device that performs frequency hopping.

97. (New) The oscillator of claim 1 wherein the oscillator is part of a wireless communications device that performs direct sequence spread spectrum modulation.

98. (New) The oscillator of claim 1 wherein the oscillator is part of a wireless communications device that further comprises a transmitter and a receiver, the oscillator, the transmitter and the receiver being integrated on a single integrated circuit chip.

99. (New) The oscillator of claim 1 wherein the oscillator comprises CMOS circuitry.

100. (New) The oscillator of claim 1 wherein the oscillator is part of a wireless communications device that supports a plurality of different wireless spread spectrum modulation techniques.

101. (New) The oscillator of claim 1 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using spread spectrum modulation.

102. (New) The oscillator of claim 1 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using direct sequence spread spectrum modulation.

103. (New) The oscillator of claim 1 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using frequency hopping.

104. (New) The oscillator of claim 15 wherein the oscillator is part of a wireless communications device that performs orthogonal frequency division multiplexing.

105. (New) The oscillator of claim 15 wherein the oscillator is part of a wireless communications device that performs spread spectrum modulation.

106. (New) The oscillator of claim 15 wherein the oscillator is part of a wireless communications device that performs frequency hopping.

107. (New) The oscillator of claim 15 wherein the oscillator is part of a wireless communications device that performs direct sequence spread spectrum modulation.

108. (New) The oscillator of claim 15 wherein the oscillator is part of a wireless communications device that further comprises a transmitter and a receiver, the oscillator, the transmitter and the receiver being integrated on a single integrated circuit chip.

109. (New) The oscillator of claim 15 wherein the oscillator comprises CMOS circuitry.

110. (New) The oscillator of claim 15 wherein the oscillator is part of a wireless communications device that supports a plurality of different wireless spread spectrum modulation techniques.

111. (New) The oscillator of claim 15 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using spread spectrum modulation.

112. (New) The oscillator of claim 15 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using direct sequence spread spectrum modulation.

113. (New) The oscillator of claim 15 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using frequency hopping.

114. (New) The oscillator of claim 29 wherein the oscillator is part of a wireless communications device that performs orthogonal frequency division multiplexing.

115. (New) The oscillator of claim 29 wherein the oscillator is part of a wireless communications device that performs spread spectrum modulation.

116. (New) The oscillator of claim 29 wherein the oscillator is part of a wireless communications device that performs frequency bopping.

117. (New) The oscillator of claim 29 wherein the oscillator is part of a wireless communications device that performs direct sequence spread spectrum modulation.

118. (New) The oscillator of claim 29 wherein the oscillator is part of a wireless communications device that further comprises a transmitter and a receiver, the oscillator, the transmitter and the receiver being integrated on a single integrated circuit chip.

119. (New) The oscillator of claim 29 wherein the oscillator comprises CMOS circuitry.

120. (New) The oscillator of claim 29 wherein the oscillator is part of a wireless communications device that supports a plurality of different wireless spread spectrum modulation techniques.

121. (New) The oscillator of claim 29 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using spread spectrum modulation.

122. (New) The oscillator of claim 29 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using direct sequence spread spectrum modulation.

123. (New) The oscillator of claim 29 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using frequency hopping.

124. (New) The method of claim 48 wherein the oscillator is part of a wireless communications device that performs orthogonal frequency division multiplexing.

125. (New) The method of claim 48 wherein the oscillator is part of a wireless communications device that performs spread spectrum modulation.

126. (New) The method of claim 48 wherein the oscillator is part of a wireless communications device that performs frequency hopping.

127. (New) The method of claim 48 wherein the oscillator is part of a wireless communications device that performs direct sequence spread spectrum modulation.

128. (New) The method of claim 48 wherein the oscillator is part of a wireless communications device that further comprises a transmitter and a receiver, the oscillator, the transmitter and the receiver being integrated on a single integrated circuit chip.

129. (New) The method of claim 48 wherein the oscillator comprises CMOS circuitry.

130. (New) The method of claim 48 wherein the oscillator is part of a wireless communications device that supports a plurality of different wireless spread spectrum modulation techniques.

131. (New) The method of claim 48 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using spread spectrum modulation.

132. (New) The method of claim 48 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency

division multiplexing and wireless communications using direct sequence spread spectrum modulation.

133. (New) The method of claim 48 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using frequency hopping.

134. (New) The method of claim 57 wherein the oscillator is part of a wireless communications device that performs orthogonal frequency division multiplexing.

135. (New) The method of claim 57 wherein the oscillator is part of a wireless communications device that performs spread spectrum modulation.

136. (New) The method of claim 57 wherein the oscillator is part of a wireless communications device that performs frequency hopping.

137. (New) The method of claim 57 wherein the oscillator is part of a wireless communications device that performs direct sequence spread spectrum modulation.

138. (New) The method of claim 57 wherein the oscillator is part of a wireless communications device that further comprises a transmitter and a receiver, the oscillator, the transmitter and the receiver being integrated on a single integrated circuit chip.

139. (New) The method of claim 57 wherein the oscillator comprises CMOS circuitry.

140. (New) The method of claim 57 wherein the oscillator is part of a wireless communications device that supports a plurality of different wireless spread spectrum modulation techniques.

141. (New) The method of claim 57 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using spread spectrum modulation.

142. (New) The method of claim 57 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using direct sequence spread spectrum modulation.

143. (New) The method of claim 57 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using frequency hopping.

144. (New) The oscillator of claim 76 wherein the oscillator is part of a wireless communications device that performs orthogonal frequency division multiplexing.

145. (New) The oscillator of claim 76 wherein the oscillator is part of a wireless communications device that performs spread spectrum modulation.

146. (New) The oscillator of claim 76 wherein the oscillator is part of a wireless communications device that performs frequency hopping.

147. (New) The oscillator of claim 76 wherein the oscillator is part of a wireless communications device that performs direct sequence spread spectrum modulation.

148. (New) The oscillator of claim 76 wherein the oscillator is part of a wireless communications device that further comprises a transmitter and a receiver, the oscillator, the transmitter and the receiver being integrated on a single integrated circuit chip.

149. (New) The oscillator of claim 76 wherein the oscillator comprises CMOS circuitry.

150. (New) The oscillator of claim 76 wherein the oscillator is part of a wireless communications device that supports a plurality of different wireless spread spectrum modulation techniques.

151. (New) The oscillator of claim 76 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using spread spectrum modulation.

152. (New) The oscillator of claim 76 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using direct sequence spread spectrum modulation.

153. (New) The oscillator of claim 76 wherein the oscillator is part of a wireless communications device that supports wireless communications using orthogonal frequency division multiplexing and wireless communications using frequency hopping.